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NOTES ON SOME WEST INDIAN FLATIDAE.

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Stål described the genus *Ormenis* as having two more or less curved and regular rows of transverse venules towards the apex of the corium, distinct ocelli, and two spines before the apex on the posterior tibiae, and separated from it another genus *Petrusa* as having only one posttibial spine. In view of the inconstancy of the recorded points of difference the status of *Petrusa* has been held in doubt, and the single species of this genus has in recent years been provisionally treated as belonging to *Ormenis*.

The writer has dealt with certain Lesser Antillean Flatids in an earlier paper (Proc. Ent. Soc. Wash. Vol. 43, No. 9), all of which were then referred to *Ormenis* (*s. l.*). On the basis of more extensive data he now considers that certain of these species, together with others described below, must be assigned to distinct genera. The genus *Petrusa* is quite distinct from *Ormenis* and is redefined below. *Ormenis contaminata* Uhler and its allies form a very compact genus, as also do *Ormenis septempunctata* Fennah and two new species described below.

Among females of species falling under *Ormenis* and *Petrusa* there are two types of ovipositor. In one the lateral styles (3rd valvulae) are broad, strong, and beset with tooth-like processes directed inwards. In all cases so far observed females with this type of ovipositor insert the eggs to a greater or less extent in the substratum, which is normally the outer-most tissues of a leaf or soft stem. In the other type the lateral styles are very much reduced, being narrow, bluntly pointed or rounded at the apex, and entirely devoid of tooth-like processes. Species with this type of ovipositor do not insert the eggs, but lay them upon the substratum which may be as above or of a woody texture.

The relative size of the anal segment of the female is apparently correlated with the quantity of waxy secretion which is deposited over or along with the eggs at the time of oviposition, as this substance is supported on the lower surface of the

segment. The amount of secretion is not closely correlated with the type of ovipositor, and on present data appears to be fairly constant among the species of each genus. The colour of this secretion is usually white, but in a few cases is brown.

The shape of the egg is variable and in its most elaborate forms offers a reliable means of distinguishing genera. The significance of some of the structures observed is very imperfectly understood. The eggs of *O. contaminata* and its allies are thick-walled and possess a well-marked operculum. They are not covered with waxy filaments but are merely sprinkled thinly with short greyish spicules. By contrast the eggs of *O. septempunctata* are thin-walled, not operculate, and when laid are covered with a thick layer of white waxy filaments matted together.

Instars of various species of the same genus have so far proved difficult to distinguish. Pigmentary differences are occasionally striking but are unreliable. As yet no careful search has been made by the writer for criteria by which genera can be distinguished in the immature stages but it is already clear that characters likely to be of value exist in the colour, shape and distribution of the various plates, flocculi or spicules formed by the epidermal secretion.

In the generic definitions given below stress is laid on the above characters, though it is recognized that in practice most workers are likely to have access only to those provided by the anal segment and the ovipositor. The step is taken partly to justify the erection of new genera and partly to indicate a promising means of testing some of the questionable groupings which, for want of better, workers at present must provisionally accept.

PETRUSA Stål.

Genotype, *Cicada marginata* Brunnich, 1767, in Linné Syst. Nat., i (2) p. 710, Stål, Hemipt. Fab. ii, p. 111.

Frons at widest part as broad as long, or very slightly broader, median carina distinct on basal two-thirds, obsolete on apical third, lateral carinae obsolete or indicated at base, lateral margins carinate; no carinae on clypeus; vertex very short; width of head (with eyes) equal to width of thorax. Pronotum with anterior margin convex, posterior margin concave; mesonotum without carinae or median carina indicated at apex. Hind tibia with one spine before apex. Tegmen 2.2 times longer than width at middle. Costal area about as wide as costal cell, granulate; Sc strong, simple to apex, R forking one-quarter from base, M forking about same level as R fork, Cu forking slightly basad of M fork. Base of R and M granulate. Nodal line parallel to apical margin of tegmen marked anteriorly by transverse veins and for most of length by an arcuate furrow. Apical line even and distinct. Anterior and posterior angles smoothly rounded, apical margin shallowly rounded.

Anal segment of male deflexed about 45 degrees in apical half, with lateral

margins produced downward into a point two-thirds from base; no median lobe ventrally. Genital styles with dorsal margin entire. Female anal segment long, rather more than three times as long as lateral styles of ovipositor. Lateral styles short, ovoid in side view, and devoid of tooth-like processes on posterior margin. Egg ovoid, approximately 2.2 times longer than wide, not operculate. Eggs not inserted, but laid in a low mound ovate in outline, densely covered with a felt of small white spicules. Epidermal secretion of instars white.

Petrusina Melichar is a synonymy, having been erected to contain the dark form of the type species. *Petrusa* was erected to contain *Cicada pygmaea* Fabr. (1794, Ent. Syst. iv, p. 30), which is the pale form of the above.

ANTILLORMENIS, n. gen.

Genotype *Ormenis contaminata* Uhler, Proc. Zool. Soc. Lond., 1895, p. 71.

Frons broader than long (about 1.4 to 1), median carina distinct on basal half, absent from apical half, lateral carinae indicated at base or absent, lateral margins carinate; no carinae on clypeus; vertex very short; width of head, with eyes, equal to width of thorax. Pronotum with a shallow depression on each side of middle line; mesonotum without carinae, or with median carina indicated at base and apex, lateral carinae at base. Hind tibia with two spines before apex. Tegmen 2.4 times longer than width at middle, costal margin narrower than costal cell near base, twice as wide in middle; costal area granulate, Sc strong, simple to apex, R forking about one-third from base of tegmen, M forking basad of R fork, Cu forking about level with M fork. Base of R and M granulate. Nodal line very feebly indicated by irregular cross-veins and an elongated depression along a curved line from node to apex of clavus; apical line fairly even and distinct. Clavus strongly granulate in basal two-thirds.

Anal segment of male strongly and abruptly deflexed in apical half, with a median ridge or lobe towards base on ventral surface; genital styles deep with an excavation near apex on dorsal margin; process of style a rather blunt peg, often twisted at tip. Anal segment of female very short, bluntly rounded in dorsal view, less than twice as long as lateral styles of ovipositor. Lateral styles short, small, somewhat ovate in side view, devoid of tooth-like processes on margin. Egg rectangular, pyramidally pointed at one end, with thick walls, operculate. Eggs not inserted, but laid on substratum in two interlocked rows with pointed ends directed inward, one layer in depth, very lightly sprinkled with short greyish-white spicules. Epidermal secretion of instars white.

This genus includes *A. albicostalis* Fen., *A. palicoureae* Fen., *A. barbadensis* Fen., *A. sanctaliciensis* Fen., *A. grenadensis* Fen., in addition to the genotype *A. contaminata* Uhler. To it are added below the following new species: *A. flaviclavata*, *A. cachibonae* and *A. sancti-vincenti*.

Antillormensis flaviclavata, n. sp.

Male. Length, 5.7 mm.; tegmen, 6.1 mm. Female. Length, 6.1 mm.; tegmen, 6.6 mm.

Pronotum pale clouded yellow, mesonotum very pale, sometimes clouded fuscous, yellow-orange laterally; frons very pale, slightly darker along the line of the lateral carinae; clypeus, genae and antennae very pale yellow, eyes red, sometimes darker in anterior half. Fore and middle legs testaceous, hind legs paler. Abdominal tergites pale yellow, sometimes fuscous, sternites pale yellow or whitish, pregenital plate, female genitalia, anal segment of male and female pale fuscous, male genitalia dark. Tegmina pale tawny, smoky at apical margins, or sometimes beyond middle, with veins pale; a broad very dark band overlying C at its base and lying between Sc and R to apex. Veins distad of apical line fuscous. Wings very pale, veins concolorous, or somewhat smoky, veins fuscous. Insects in life powdered pale fawn.

Anal segment of male with a short median ventral process; deflexed part of segment only slightly shorter than horizontal part. Aedeagus with a pair of dorsal apical spines half as long as aedeagus, and ventrally a pair of curved processes, short, and turned outwards in a minute hook at tip.

Described from 65 males and 77 females collected by the writer near Goodwill Estate, Dominica, B. W. I. (May 9, 1941), on *Coccoloba uvifera*. Type material deposited in the United States National Museum. This species superficially resembles *A. cachibonae*, *A. albicostalis*, *A. sanctaliciensis*, and *A. barbadosis*. It is readily separated from all by the absence of a fuscous area on the basal half of the clavus (the darkest specimens have only a suggestion of this), and by the shape of the ventrolateral process of the aedeagus, which is closest to that of *sanctaliciensis* but not so markedly twisted on its axis, while the hooked tip is smaller. It is further distinguished from *sanctaliciensis* by its pale clypeus, frons, pro- and mesonotum.

Antillormenis cachibonae, n. sp.

Male. Length, 5.6 mm.; tegmen, 6.3 mm. Female. Length, 5.8 mm.; tegmen, 6.7 mm.

Pronotum pale fuscous, mesonotum fuscous darker basally and laterally with a paler line on each side of middle; frons pale yellow, slightly clouded with fuscous; clypeus pale, a dark curved line near each side, genae pale yellow, antennae light fuscous, eyes red. Legs pale testaceous, apex of hind femur and base of hind tibia, darker; abdominal tergites and genitalia fuscous, sternites slightly paler. Tegmina pale yellow, darkening into fuscous distad of middle; costal area pale, a very dark fuscous band overlying costal at base and lying between Sc and R to apex, clavus fuscous basally. Wings smoky, veins dark. Insect in life powdered fawn.

Anal segment of male with median ventral process, slightly recurved, deflexed part of segment nearly as long as horizontal. Aedeagus with a pair of

spines dorsally at apex directed anteriorly for nearly two-thirds length of aedeagus, and ventrally with a pair of stouter processes curving anteriorly and upwards, somewhat angularly curved outwards when viewed from ventral aspect.

Described from 12 males and 9 females collected near the mouth of the Melville Hall or Cachibona River, Dominica, B. W. I., by the writer (June 18, 1941) on *Coccoloba wifera*. Type material deposited in the U. S. N. M. This species is close to *A. albicostalis*, but differs in having the tegmina usually pale, not dark. The ventral processes of the aedeagus of *cachibonae* when viewed from the ventral aspect are rather angularly curved, while in *albicostalis* they are smoothly curved. The posterior margin of the plate lying between these processes is sinuate in *albicostalis*, saw-toothed in *cachibonae*. The basad side of the excavation near the apex of the dorsal margin of the male genital style is straight in *cachibonae*, while in *albicostalis* it forms a curve steepening as it descends. In the female the notch in the pregenital plate is wider than in *cachibonae*, and the distal margin of the plate is much less sinuate.

***Antillormenis sancti-vincenti*, n. sp.**

Male. Length, 6.5 mm.; tegmen, 7.2 mm. Female. Length, 6.8 mm.; tegmen, 7.8 mm.

Dark form: pronotum tawny, margined narrowly with fuscous; mesonotum ferruginous, a dark spot laterally, basal margin and scutellum very dark; frons tawny, darker near lateral margins; clypeus tawny, a pale band on each side of middle line; genae and antennae pale, eyes very pale grey. Legs fuscous yellow, abdominal tergites and sternites fuscous, paler laterally; female genitalia fuscous yellow, male genitalia dark. Tegmina tawny ferruginous, base of costa, middle of Sc, and apical part of R clouded fuscous, the tegmen dark fuscous distad of a line between apex of costal area and middle of claval suture, nodal line transparent in middle; clavus fuscous. Sometimes the whole tegmen is dark fuscous except for the ferruginous costal area (including a small area behind its tip) and a quadrangular area just basad of middle of tegmen. Wings smoky, veins dark. Insect in life powdered a leaden hue.

Pale forms: insect wholly pale yellow except for the eyes, which are purple, and the membrane of the tegmen distad of the apical line, which is dark fuscous. Insect in life powdered whitish.

Anal segment of male with a large median ventral process, over half as long as deflexed apical part of segment, and with a median lobe on its basal side; apical part scoop-shaped. Deflexed apical part of segment slightly shorter than horizontal part. Aedeagus with a pair of slender processes on dorsal margin directed anteriorly for two-thirds of its length; ventrally a pair of hook-like processes sweeping anteriorly outwards and upwards and then curving posteriorly. Ventral distad margin of periandrium shallowly excavated, pointed at each side.

Described from 26 males and 31 females collected by the writer in St. Vincent, B. W. I., in the following localities—Morne Garu, at 1,500 ft. (Aug. 20, 1941), Three Rivers, between 300 and 2,000 ft. (Sept. 3, 1941), and Mt. St. Andrews, at 2,000 ft. (Sept. 12, 1941). The insects were taken in forest on *Heliconia bihai*, banana, *Inga laurina*, cacao, mango, and *Tabernaemontana* sp. Type material deposited in U. S. N. M. This species superficially is not unlike *A. contaminate* Uhler, which also occurs in St. Vincent. It differs in detail, however, being larger, and having the dark areas of the tegmen sharply defined; other differences include the shape of the ventral process of the male anal segment, that of the ventral aedeagal process, of the apical border of the periandrium, and of the apical process of the genital styles. In the female the notch in the posterior margin of the pregenital plate is broader and more shallow than that of *A. contaminate*. *A. santi-vincenti* is a forest dweller and has not been taken in the coastal area, while *A. contaminate*, though found on the outskirts of rain forest (usually on *Cordia* sp.), occurs typically in the drier zones.

ILESIA, n. gen.

Genotype *Ormenis septempunctata* Fennah, Proc. Ent. Soc. Wash., 43, No. 9, p. 196.

Frons broader than long (1.4 or 1.5 to 1), median carina distinct on basal two-thirds, absent from apical third, though sometimes indicated at apex, lateral carinae scarcely indicated at base, otherwise absent, lateral margins carinate; no carinae on clypeus; vertex very short; width of head, with eyes, equal to width of thorax. Pronotum with a slight depression anteriorly on each side of middle line; mesonotum without carinae, or median carina slightly indicated at apex, lateral carinae at base. Hind tibia with two spines before apex. Tegmen 2.5 times longer than width at middle, costal margin as wide as costal cell near base, twice as wide in middle; costal area granulate, Sc simple to apex, R forking about one-third from base of tegmen, M forking about same level, Cu forking slightly basad of former two, base of R and M granulate. Nodal line fairly distinct, marked anteriorly by irregular cross-veins, posteriorly by an elongated depression from near node to apex of clavus; apical line fairly even and distinct. Anterior apical angle of tegmen smoothly rounded, slightly acute, posterior angle more abruptly rounded and slightly obtuse; apical margin obliquely truncate, slightly rounded.

Anal segment of male not strongly and abruptly deflexed in apical half, and devoid of ventral ridge or process. Genital styles with dorsal margin entire, apical process in form of an inwardly curved plate with a broadly sinuate margin ending basad in a short point directed outward, distad in a broad point directed posteriorly. Anal segment of female very long, about three times as long as lateral styles of ovipositor. Lateral styles small, fusiform in side view, devoid of tooth-like apical processes. Egg ovoid, approximately 2.5 times as long as broad, not operculate. Eggs not inserted, but laid in a

low mound ovate in outline, densely covered with a matted layer of small white spicules. Epidermal secretion of instars white.

Ilesia anguillana, n. sp.

Male. Length, 4.0 mm.; tegmen, 4.8 mm. Female. Length, 5.2 mm.; tegmen, 5.6 mm.

Pronotum testaceous, fuscous basally; mesonotum ferruginous with two or three fuscous spots on basal margin on each side of middle line; frons, clypeus, and genae testaceous, antennae pale with black sensory pits, eyes orange, with a black spot bordered white antero-dorsally. Legs testaceous; abdominal tergites, anal segment and male genitalia fuscous, sternites, pygofer, and female genitalia paler. Tegmina testaceous, costal area and apical half of tegmen fuscous, veins pale, clavus sometimes fuscous. A fuscous elongated spot at base of costal vein, a small spot near junction of R and M, a large trapezoidal spot just distad of Cu fork, a small spot on clavus at apex. Wings smoky, veins dark. Insect in life powdered pale brown.

Anal segment of male devoid of ventral process; deflexed part of segment one-third length of horizontal part. Aedeagus with a pair of complex processes laterally, each consisting of a thin spine curved posteriorly, then upwards, anteriorly and outwards; attached to this a bifurcate spine below, directed anteriorly, the longer arm being half as long as aedeagus, the shorter one-fifth the length of the longer; a pair of minute blunt processes ventrally one-quarter from base of aedeagus. Anal segment of female 1.1 mm. long.

Described from 5 males and 6 females collected in Anguilla, B. W. I., by F. S. Delisle, Esq. (April 23, 1941) on *Coccoloba uvifera*. Type material deposited in the U. S. N. M. This species is allied to *I. septempunctata*, but differs in the male genitalia and in the pattern of spots on the tegmen. A long series of this species has more recently been taken by the writer in Nevis, B. W. I. (Jan. 14-20, 1942).

Ilesia benevolens, n. sp.

Male. Length, 5.6 mm.; tegmen, 6.0 mm. Female. Length, 5.9 mm.; tegmen, 6.4 mm.

Pronotum pale testaceous; mesonotum somewhat ferruginous, a pair of fuscous spots basally on each side of middle line, the outer large and triangular, the inner small and round. Frons, clypeus, and genae light yellow or yellowish-brown, antennae somewhat paler, eyes orange-red, a black spot bordered white antero-dorsally. Legs pale yellow to yellowish-brown. Abdominal tergites, male genitalia, and female anal segment fuscous, sternites and female genitalia very pale, but sometimes dull mottled brown bordered with orange. Tegmina dull stramineous, sometimes fuscous. Costal area fuscous at base, pale apically, basal half of tegmen usually pale, distal half fuscous, slightly paler beyond apical line, junction of R and M thinly clouded with fuscous, a small dark spot basad of this junction, a larger trapezoidal spot on Cu posterior to R and M junction, a still larger round spot on Cu posterior to M fork,

a small spot on clavus at apex, clavus fuscous basally posterior to anal vein. Wings, smoky, veins dark. Insect in life powdered pale fawn.

Anal segment of male devoid of ventral processes; deflexed part of segment only one-quarter of length of horizontal part. Aedeagus with a pair of spines just basad of apex directed ventrally and posteriorly; arising at the same level a pair of shallowly curved slender spines directed anteriorly below aedeagus for three-quarters of its length; a small process laterally, directed outwards. Anal segment of female long (1.5 mm.).

Described from 35 males and 48 females collected by the writer near Goodwill Estate, Dominica, B. W. I. (May 9, 1941), on *Coccoloba uvifera*. Type material deposited in U. S. N. M. This species differs from *I. septempunctata* in the shape of the spots on the tegmina, in the mode of forking of the veins distad of the apical line, and in having longer tegmina. The female has a longer telson on the anal segment, a narrower sclerotised strip behind the anal opening, longer genital styles, and a differently shaped apical margin on the pregenital plate. The male differs from that of *septempunctata* in the shape of the anal segment, in the direction in which the shorter aedeagal spine projects, and in the shape of the long shallowly curved aedeagal process. The writer assigns to this species a male and a female collected by him in St. Lucia, B. W. I. (March 21 and April 28, 1941), on *Tabernaemontana* sp. The notch in the pregenital plate of the female is a little wider than in the Dominican material, but otherwise the specimens agree perfectly.

ORMENIS Stål.

1862 Stål, Bidrag till Rio Janeiro-Traktens Hemipter-Fauna, II, p. 68.

Ormenis jamaicensis, n. sp.

Male. Length, 5.2 mm.; tegmen, 6.3 mm. Female. Length, 6.2 mm.; tegmen, 7.2 mm.

Frons broader than long (1.3 to 1), median carina distinct on basal two-thirds, absent from apical third, lateral carinae indicated at base, lateral margins carinate; no carinae on clypeus. Vertex short; width of head (with eyes) equal to width of thorax; pronotum smooth, a shallow depression on each side anteriorly; mesonotum with median carina scarcely indicated at base and apex, lateral carinae at base. Hind tibia with two spines before apex. Costal area slightly granulate, Sc strong, simple to apex, R forking less than one-third from base of tegmen, M forking slightly basad of R fork, Cu forking about level with M fork. Base of R and M granulate. Nodal line parallel to apical margin, scarcely indicated by a series of cross-veins more or less in line from node to near apex of clavus; apical line somewhat uneven but distinct; one or two rows of small irregular cells between the apical line and the even apical cells. Apical margin of tegmen straight, joining posterior margin in a clean-cut right angle. Basal two-thirds of clavus strongly granulate.

Head, thorax, legs, abdomen and tegmina uniformly pale green, parts of genitalia fuscous. Eyes purple. Wings transparent, veins stramineous. Insect in life powdered greenish white.

Anal segment of male with deflexed apical part nearly twice as long as horizontal part. Arising from the ventral middle line below the anal style, and deepening anteriorly, a vertical plate, terminated by a transparent, flat, subquadrangular lobe directed posteriorly. Aedeagus with a pair of short, stout spines apically on dorsal border; posterior to these a pair of thin filaments, somewhat angularly curved in side view, arising from side of periandrium and directed upwards to same height as dorsal spines. A pair of long processes ventro-laterally, each arising at the base of the thin periandrial filaments and directed anteriorly below the aedeagus for two-thirds of its length. Ventral border of periandrium (a keel-like plate) terminating posteriorly in a point. Genital styles with an elevation on dorsal border near apex, posterior to this a slight excavation; apical process a rather thin spine, smoothly curved backward, then upward and slightly forward.

Anal segment of female short, bluntly rounded, genital styles large and stout, toothed along posterior margin; ovipositor short. Egg narrowly oval, a long narrow operculum near one pole, in side view slightly pointed at one end, shell rather thick.

Described from 18 males and 22 females collected by the writer near Hope Gardens, Jamaica (Nov. 1-3, 1940), on *Lantana* sp., and "Jasmine." Type material in U. S. N. M., paratypes in British Museum. Writing of two specimens which were submitted to him for examination, Mr. W. E. China has indicated that they are close to *Ormenis herbida* Wlk., but differ in structural details of the aedeagus and of the anal tube. This species, according to Melichar's key, would fall under the oriental genus *Geisha* Kirk., but differs from it in the structure of the head and in the type of the genitalia. It is here provisionally placed in *Ormenis sens. lat.* as it does not appear to be congeneric with any of the more recent subdivisions of this old genus.

***Ormenis perpusillus* Walker.**

Poeciloptera perpusilla Walk. List of Homopt., II, p. 467, 61 (1851).

The following are the principal characters of this species.

Tegmen with apical areoles evenly spaced, apical line even and distinct; subapical areoles evenly developed, but bounded irregularly at base, the nodal line being obscure. Hind tibia with two spines before apex.

Head, thorax, abdomen, legs and tegmina uniformly pale green, wings transparent, genitalia greenish-brown. Insect in life powdered greenish-white.

Anal segment of male with apex scarcely deflexed. Aedeagus with two pairs of thin spinose processes on dorsal border at apex, directed anteriorly. The anterior pair extends forward for two-thirds the length of the aedeagus, while the posterior pair is about one-third the length of the anterior. Laterally a

pair of processes on each side, the basal process thin, blade-like, rounded at apex, directed downward and forward; distal process thicker, sickle-shaped, terminating in a point, directed downward and forward. Genital styles with upper and lower borders parallel, apical process on dorsal border a vertical narrow lamina twisted inwards; posterior margin of style almost semicircular in side view.

Anal segment of female slightly longer than lateral styles, rather narrow. Lateral styles stout, tapering slightly toward apex; posterior margin with four strong tooth-like processes. Ovipositor relatively long, directed backward and upward.

The material in the writer's collection consists of one male and one female and two specimens with abdomen missing, collected in Jamaica, B. W. I., by A. H. Ritchie (May 23-26, 1917) on coffee. The figure of the male genitalia has been redrawn from a drawing submitted to Mr. W. E. China, and kindly compared by him with the dissected genitalia of the British Museum type. Melichar includes Venezuela, Bogota, Guadeloupe and Martinique in the distribution of this species, but it is most probable that the insect is confined to Jamaica.

EXPLANATION OF PLATES.

Plate 15.

1. *I. anguillana*, male genitalia.
2. *I. anguillana*, egg.
3. *I. anguillana*, female genitalia.
4. *I. benevolens*, male genitalia.
5. *I. benevolens*, dorsal outline of male anal segment.
6. *I. septempunctata*, dorsal outline of male anal segment (for comparison).
7. *I. anguillana*, median notch on posterior margin of female pregenital sternite.
8. *I. septempunctata*, median notch on posterior margin of female pregenital sternite (for comparison).
9. *I. benevolens*, median notch on posterior margin of female pregenital sternite (for comparison).
10. *I. benevolens*, telson and ante-anal sclerite of female anal segment.
11. *I. septempunctata*, telson and ante-anal sclerite of female anal segment (for comparison).
12. *A. cachibonae*, male genitalia.
13. *A. cachibonae*, ventral view of hooks and posterior margin of periandrium.
14. *A. albicostalis*, ventral view of hooks and posterior margin of periandrium (for comparison).
13. *A. albicostalis*, ventral view of hooks and posterior margin of periandrium (for comparison).
15. *A. cachibonae*, one of paired apical processes of periandrium.
16. *A. albicostalis*, one of paired apical processes of periandrium (for comparison).

17. *A. albicostalis*, basad side of subapical excavation on dorsal border of male genital style (for comparison).
18. *A. cachibonae*, basad side of subapical excavation on dorsal border of male genital style, (for comparison).
19. *A. cachibonea*, female genitalia.
20. Egg of *A. cachibonea*, *A. flaviclavata*, and *A. sancti-vincenti*.
21. *A. flaviclavata*, one of paired apical processes of periandrium.
22. *A. sanctaliciensis*, one of paired apical processes of periandrium (for comparison).
23. *A. sancti-vincenti*, female genitalia.
24. *A. flaviclavata*, male genitalia.
25. *A. flaviclavata*, ventral view of hooks and posterior margin of periandrium.
26. *A. sanctaliciensis*, ventral view of hooks and posterior margin of periandrium (for comparison).
27. *A. sanctaliciensis*, apical process of male genital style for comparison with 24.
28. *A. flaviclavata*, female genitalia.
29. *A. sancti-vincenti*, male genitalia.
30. *A. contaminata*, ventral view of posterior margin of periandrium (for comparison).
31. *A. sancti-vincenti*, ventral view of posterior margin of periandrium (for comparison).

Plate 16.

1. *A. albicostalis* (a) side view of female pregenital sternite;
(b) median notch on posterior margin of female pregenital sternite.
 2. *A. sanctaliciensis* (a), (b) as preceding.
 3. *A. cachibonae* (a), (b) as preceding.
 4. *A. flaviclavata* (a), (b) as preceding.
 5. *A. grenadensis* (a), (b) as preceding.
 6. *A. contaminata* (a), (b) as preceding.
 7. *A. palicoureae* (a), (b) as preceding.
 8. *A. sancti-vincenti* (a), (b) as preceding.
 9. *A. barbadensis* (a), (b) as preceding.
 10. *O. perpusillus*, male genitalia.
 11. *O. perpusillus*, female genitalia.
 12. Diagram showing relationship of the species of *Ilesia*.
 13. *O. jamaicensis*, male genitalia.
 14. *O. jamaicensis*, posterior margin of periandrium.
 15. *O. jamaicensis*, female genitalia.
 16. *O. jamaicensis*, egg, (a) front view, (b) side view.
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